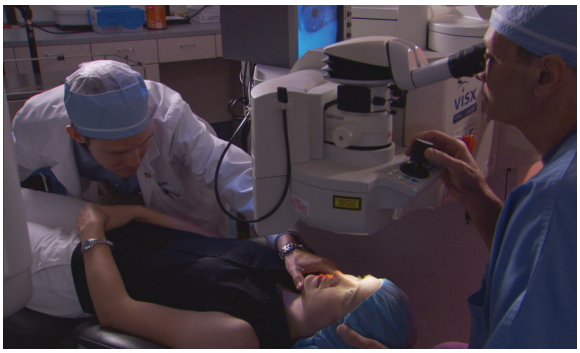
National Aeronautics and Space Administration

NASA Innovations inspire development of technology and products here on Earth

Many of the products and services people enjoy today are rooted in technology developed by NASA in its quest to explore space. From LASIK eye surgery and heart pumps to heartier turfgrass, toys and cordless vacuum cleaners, U.S. entrepreneurs have used NASA innovations to successfully develop a variety of products and services.

- Laser eye surgery equipment - The same technology NASA and the Department of Defense use to guide spacecraft and missiles is now the foundation for a precise eye-tracking device and technique used during LASIK laser vision correction surgery.



- Life-saving heart pumps - MicroMed Technology and doctors at the world-renowned Texas Medical Center in Houston used technology behind a NASA Space Shuttle pump component to develop a life-saving heart pump for critically-ill patients who are awaiting heart transplants.

- Firefighter Equipment - Astronaut suit and equipment technology has been successfully adapted to develop safer apparel and equipment for U.S. firefighters. These include protective clothing using flame-resistant fabrics, as well as a lightweight breathing system that includes a face mask, a frame and harness, and an air bottle.

- Scratch-Resistant Sunglasses - RayBan® used the diamond-like NASA technology to create its Survivors® sunglasses collection, which are 10 times more scratch-resistant than conventional glass lenses.

- Tough Turfgrass - Using space agricultural technology, Plant-Wise Biostimulant Company developed a growth supplement to improve the quality and vigor of artificial turfgrass.

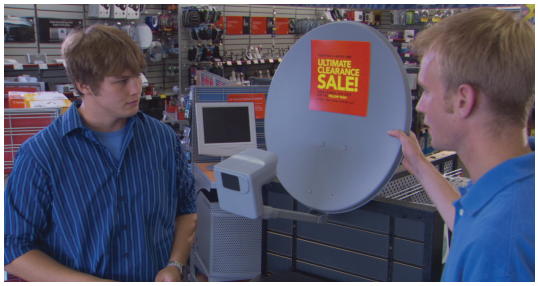
- Improved Toy Gliders - NASA engineers provided toymaker Hasbro, Inc., with essential information about the Space Shuttle's wing design and shape to improve performance of a toy glider.

- Invisible Braces - Ceramic material developed by NASA for spacecraft and aircraft has been successfully adapted to create invisible, aesthetically pleasing, yet strong metal wire material for invisible braces.

- Portable Vacuum Cleaner - Using technology behind a device that allowed astronauts to extract core samples from the Moon, Black & Decker Corporation developed the DustBuster cordless, portable vacuum.

- Heart Rate Monitors - Researchers at Texas Tech University in Lubbock, Texas used a NASA research grant to develop a new type of electrocardiographic electrode used in heart rate monitors. The dry, reusable electrode works on contact with the skin and is not affected by cold, heat, light, perspiration, or rough and oily skin.

- In-flight Satellite weather systems - Through a Small Business Innovation Research grant, NASA and ViGYN co-developed a weather system to provide complete weather coverage and content for the continental United States at any altitude. Now, this technology is used to deliver real-time satellite broadcast weather information to pilots where they need it most – inside their cockpits.



tech transfer

About NASA-Johnson Space Center Technology Transfer Office

The NASA-Johnson Space Center Technology Transfer Office provides a means to advance internal technologies and innovations at NASA for both space-related endeavours and commercial applications. The office is a valuable resource at NASA as a pool for useful technology and innovations. Externally, the office provides strong assistance in helping entrepreneurs, companies and investors to bring useful technology to the marketplace. For more information on current technologies, to learn more about how to license NASA-JSC technologies, or to read success stories, visit http://technology.jsc.nasa.gov.